

REMARKS

Claims 1-21 are currently pending in the application. By this amendment, no claims have been amended or added. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Allowable Subject Matter

Applicants appreciate the indication that claims 5-7 and 15-19 contain allowable subject matter if rewritten in independent form to include all of the limitations of the base claims and any intervening claims. Applicants submit, though, that all of the claims are allowable in view of the following remarks.

Improper Rejection of Claims 9, 13, 14, and 21

According to MPEP 707.07(e), a plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group. Applicants submit that the Examiner has grouped together claims under a common rejection even though the claims include distinct features. For example, the Examiner has rejected claims 9 and 21 by grouping them together with claims 8 and 20, without considering any of the features of claims 9 and 21. Additionally, the Examiner has rejected claims 13 and 14 by grouping them together with claim 4, without considering any of the features of claims 13 and 14. Therefore, Applicants submit that the Examiner's failure to consider the specific features of claims 9, 13, 14, and 21 makes the rejection of claims 9, 13, 14, and 21 in the Office Action improper and unclear. Accordingly, Applicants submit that a clear issue was not developed between the Examiner and Applicants and the next Office Action, which should clarify this issue, *cannot* be made final.

According to MPEP 706,

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Before final rejection is in order a clear issue should be developed between the examiner and applicant. To bring the prosecution to as speedy conclusion as possible and at the same time to deal justly by both the applicant and the public, the invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied; and in reply to this action the applicant should amend with a view to avoiding all the grounds of rejection and objection.

Additionally, MPEP 706.07(a) notes:

Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). ...

Furthermore, a second or any subsequent action on the merits in any application ... will not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement filed under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art.

Applicants respectfully submit that the Examiner may not make the next action final, as in the previous Office Action a "clear issue [was not] developed between the examiner and applicant."

35 U.S.C. §103 Rejection

Claims 1-4, 8-14, 20, and 21 were rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 5,337,313 issued to Buchholz, *et al.* ("Buchholz") in view of U.S. Patent Publication 2003/0108066 issued to Trippe ("Trippe"). These rejections are respectfully traversed.

In order to reject a claim under 35 U.S.C. §103(a), the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to

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submit evidence of nonobviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2142. Applicants submit that no proper combination of the applied art teaches or suggests each and every feature of the claimed invention.

Claim 1

The present invention is directed to a method and system for reordering packets received from a high speed data channel. More specifically, independent claim 1 recites, in pertinent part:

- comparing said context information of the received data packet to an expected sequence count for the given sequence, and storing the received packet with said context information in a memory as a linked list when there is a match, all received packets in the linked list being in order;
- creating a new linked list each time a new data packet is received out-of-order;
- linking in order all subsequent packets received in order to the new linked list;
- constructing a reorder table of addresses of the first packet for all linked lists; and
- reading packets out of the memory in an order specified by the reorder table.

Applicants submit that the combination of Buchholz and Trippe does not show or suggest these features.

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The Examiner asserts that Buchholz includes the feature of storing the received packet with said context information in a memory as a linked list when there is a match. However, Applicants respectfully disagree. Instead, Applicants submit that Buchholz compares a fetched data packet's sequence information with a received data packet's sequence information. As a function of this comparison, Buchholz compares the sequence information's sequence numbers. If the sequence numbers compare, e.g., match, then the received data packet is forwarded for further processing. If the sequence numbers do not compare, e.g., do not match, then the received data packet is stored in an order determined by the sequence information. (Col. 3, lines 49-53.) In other words, Buchholz stores the received data packet when sequence numbers do not match, which is the opposite of storing a received packet with said context information in a memory as a linked list when there is a match.

Applicants agree with the Examiner that Buchholz fails to create a new linked list each time a new data packet is received out-of-order or link in order all subsequent packets received in order to the new linked list. However, Applicants respectfully submit that Trippe does not compensate for the deficiencies of Buchholz. In particular, Trippe does not create a new linked list each time a new data packet is received out-of-order; link in order all subsequent packets received in order to the new linked list; construct a reorder table of addresses of the first packet for all linked lists; or read packets out of the memory in an order specified by the reorder table.

Trippe orders packets by storing packets in memory as they arrive. Trippe also stores a context for received packets in a content-addressable memory. The context can include a packet sequence number and/or semaphore flags identifying the first and last packets of the set of original data. (Paragraphs [0015] – [0016].) Trippe reorders packets that arrive out of their original order by issuing a series of requests to the content-addressable memory. In response to the requests, the content-addressable memory retrieves the context corresponding to the sequence number, which permits Trippe to locate the corresponding packet from memory using a context pointer.

(Paragraph [0018].) Once the packets are located, they can be organized, e.g., via a single linked list, wherein a packet can be linked into the linked list in order. (Paragraphs [0019] and [0024].)

In addition to ordering packets, Trippe also contemplates storing received fragment packets in memory. (Paragraph [0029].) This can be done using context-addressable memory, which allows for fragment packets to be reordered. The reordering can be done by dynamically chaining packets into a correctly ordered linked list and then outputting the packet fragments in their correct order. In other words, Trippe creates a single linked list and inserts packets in order into the single linked list. However, Trippe does not create a new linked list each time a new data packet is received out-of-order. Accordingly, Trippe cannot link in order all subsequent packets received in order to the new linked list.

Applicants further submit Trippe does not construct a reorder table of addresses of the first packet for all linked lists or read packets out of the memory in an order specified by the reorder table. As explained above, Trippe creates a single linked list that allows out-of-order packets to be inserted into it. The first packet is marked using a semaphore flag of B=1, which is stored as context information when received in the content-addressable memory. (Paragraphs [0017], [0022], and [0033].) This semaphore flag allows Trippe to easily determine the first packet in the single linked list based on the value associated with the semaphore flag. Therefore, Trippe does not use, nor need, a reorder table to hold a single address, which represents the first packet of its single linked list. Accordingly, Applicants submit Trippe does not construct a reorder table of addresses of the first packet for all linked lists. Additionally, Applicants submit Trippe does not read packets out of the memory in an order specified by the reorder table.

Claims 8 and 20

Claim 8 recites, in pertinent part:

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... creating a linked list each time a new data packet is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list.

Claim 20 recites, in pertinent part:

... create a linked list each time a new data packet of the packet chain is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list.

Applicants agree with the Examiner that Buchholz fails to create a linked list each time a new data packet of the packet chain is received out-of-sequence and linking in order all subsequent packets received in sequence to the linked list. However, Applicants respectfully submit Trippe does not compensate for the deficiencies of Buchholz. More specifically, Applicants respectfully submit Trippe does not create a linked list each time a new data packet of the packet chain is received out-of-sequence and link in order all subsequent packets received in sequence to the linked list. As discussed above, Trippe creates a single linked list, which Trippe uses to arrange packets in order. This single linked list is used regardless of whether the new data packets are in-sequence or out-of-sequence when they are received. Since Trippe uses a single linked list to arrange in-sequence and out-of-sequence packets, Applicants assert Trippe does not create a linked list each time a new data packet of the packet chain is received out-of-sequence and link in order all subsequent packets received in sequence to the linked list. Accordingly, Applicants respectfully request the rejection over claims 8 and 20 be withdrawn.

Dependent Claims

Claims 2-4, 9-14, and 21 are dependent claims, depending on respective independent claims 1 and 8. For this reason, Applicants submit that these claims are thus distinguishable based on independent claims 1 and 8. Applicants submit that

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these claims also include subject matter which is distinguishable from Buchholt in view of Trippe.

Claim 11

Claim 11 recites, in pertinent part:

... wherein the sequence number is a list of sequence numbers, each associated with at least one of the in-sequence and the out-of-sequence packet chain.

Applicants respectfully submit Buchholt does not include the feature of a sequence number being a list of sequence numbers, each associated with at least one of the in-sequence and the out-of-sequence packet chain. Instead, Buchholt includes a "sequence number" in figure 6 and a "stream sequence number field" in figure 7. The sequence number in figure 6 is a single sequence number that does not include a list of sequence numbers. However, the stream sequence number field is an n bit field which provides for a range of 2ⁿ sequence numbers. (Col. 5, line 67 – col. 6, line 4.) Therefore, Buchholt includes a stream sequence number field capable of having a list of sequence numbers. However, Buchholt does not include the feature of a sequence number being a list of sequence numbers, each associated with at least one of the in-sequence and the out-of-sequence packet chain. Accordingly, claim 11 is not obvious.

Other Matters

Applicants submit that the Examiner did not properly reject claims as noted above. While stating that these claims were rejected, the Examiner never addressed the features of these claims as rejected by the references as applied by the Examiner. For these reasons, Applicants submit that a clear issue was not developed between the Examiner and Applicants. As such, the next Office Action, which should clarify this issue, *cannot* be made final. (See MPEP 706 and 706.07(a), which are referenced above.)

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Accordingly, Applicants respectfully submit that the Examiner may not make the next action final, as in the previous Office Action a "clear issue [was not] developed between the examiner and applicant".

CONCLUSION

In view of the foregoing amendment and remarks, Applicants submits that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 09-0456.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', with a stylized, flowing script.

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